Message

**From:** MacDonald, Alex@Waterboards [Alex.MacDonald@waterboards.ca.gov]
**Sent:** 8/25/2015 3:36:00 PM
**To:** Fennessy, Christopher [christopher.fennessy@Rocket.com]; Ross, Steve@DTSC [Steve.Ross@dtsc.ca.gov]
**CC:** Keller, Lynn [Keller.Lynn@epa.gov]
**Subject:** RE: Remedial Action Objectives for Area 40
**Attachments:** Area 40 RAOs.docx

Attached is my first stab at the RAOs. These can be refined over time, but should be sufficient for conducting the FS.

Alex

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**From:** Fennessy, Christopher [mailto:christopher.fennessy@Rocket.com]
**Sent:** Thursday, August 20, 2015 11:42 AM
**To:** Ross, Steve@DTSC
**Cc:** MacDonald, Alex@Waterboards; Keller, Lynn
**Subject:** RE: Remedial Action Objectives for Area 40

Thanks Steve! I will take a look at the ITRC document for additional guidance.

**Christopher M. Fennessy, P.E.**
**Aerojet Rocketdyne, Inc.**
Engineering Manager, Site Remediation
11260 Pyrites Way, Suite 125
Rancho Cordova, CA 95670
Ph: 916-355-3341
Fax: 916-355-6145
Email: Christopher.Fennessy@Rocket.com

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**From:** Ross, Steve@DTSC [mailto:Steve.Ross@dtsc.ca.gov]
**Sent:** Thursday, August 20, 2015 11:23 AM
**To:** Fennessy, Christopher
**Cc:** MacDonald, Alex@Waterboards; Keller, Lynn
**Subject:** [EXTERNAL] RE: Remedial Action Objectives for Area 40

Hi Chris,

Valerie is out for a while so I will run this by her again when she gets back. I wanted to point out something Alex mentioned during our agencies review of the BOU proposed plan. He referenced the ITRC document DNAPL Site Strategy (Nov 2011) for assistance in remedial action objectives and compliance with SMART attributes at http://www.itrcweb.org/GuidanceDocuments/IntegratedDNAPLStrategy_IDSSDoc/IDSS-1.pdf . Thought it was useful in this exercise. I have inserted my revisions without taking into account the SMART suggestions.

Groundwater

1. Reduce the loading of COCs that impair groundwater that prevent groundwater from attaining beneficial uses.

2. Reduce the flux of COCs in groundwater beyond Prairie City Road
3. Prevent the migration of COCs in groundwater at concentrations that pose a threat to human health and the environment north and south into the future planned residential development
4. Prevent modification of groundwater and soil vapor flow conditions, including extraction and recharge except for the purpose of remedial action
5. Mitigate the human health and any significant environmental impacts that may be created by response actions.

Current Land Use

1. Prevent exposure to non-VOCs in soil at concentrations that pose an unacceptable risk to ecological receptors
2. Prevent exposure to VOCs in soil vapor and groundwater at concentrations that pose an unacceptable risk to ecological receptors.

Future Land Use

1. Open Space Area
    a. Prevent exposure to non-VOCs in soil at concentrations that pose an unacceptable risk to ecological receptors.
    b. Reduce exposure to VOCs in soil vapor at concentrations that pose an unacceptable risk to ecological receptors
2. Recreational Area
    a. Prevent exposure to non-VOCs in soil at concentrations that pose an unacceptable risk to future recreational users, recreational workers, and construction worker
    b. Prevent exposure to VOCs in soil vapor and groundwater at concentrations that pose an unacceptable ambient air risk to future recreational users, recreational workers, and construction workers
    c. Prevent exposure to VOCs in soil vapor and groundwater at concentrations that pose an unacceptable indoor air risk to future recreational workers
    d. Prevent exposure to COCs in groundwater at concentrations that pose an unacceptable risk to future construction workers.
3. Mixed use Area (residential and commercial uses)

Prevent exposure to COCs that pose an unacceptable risk to human health

**From:** Fennessy, Christopher [mailto:christopher.fennessy@Rocket.com]
**Sent:** Thursday, August 20, 2015 7:35 AM
**To:** Ross, Steve@DTSC; MacDonald, Alex@Waterboards; Keller, Lynn
**Subject:** RE: Remedial Action Objectives for Area 40

Hi Everyone – We are at the point where we need to finalize the RAOs and proceed with the Area 40 FS. Do you have any comments on the RAOs listed below before we move forward? Thanks, Chris

**Christopher M. Fennessy, P.E.**
**Aerojet Rocketdyne, Inc.**
Engineering Manager, Site Remediation
11260 Pyrites Way, Suite 125
Rancho Cordova, CA 95670
Ph: 916-355-3341
Fax: 916-355-6145
Email: Christopher.Fennessy@Rocket.com

**From:** Fennessy, Christopher
**Sent:** Friday, July 24, 2015 3:38 PM
**To:** Ross, Steve@DTSC (Steve.Ross@dtsc.ca.gov); MacDonald, Alex@Waterboards (Alex.MacDonald@waterboards.ca.gov); Keller, Lynn
**Subject:** Remedial Action Objectives for Area 40

Hi Everyone – I know you are diligently reviewing the Area 40 HHERA...or at the least, it is on your desk in the way of other more important documents (although I can't possibly imagine what those more important documents would be =)). While you are performing your review, we are diligently working on the initial portions of the Area 40 FS. The first step was to develop the draft Remedial Action Objectives. The following is our first cut. Please review and let us know what you think. I have attached a map showing the future use and the anticipated receptors for each area. Thanks! Chris

Groundwater

1. Reduce the loading of COCs to groundwater that prevent groundwater concentrations from attenuating
2. Reduce the flux of COCs in groundwater beyond Prairie City Road
3. Prevent the migration of COCs in groundwater at concentrations that pose a threat to human health and the environment south into the future planned residential development
4. Prevent modification of groundwater flow conditions, including extraction and recharge except for the purpose of remedial action

Current Land Use

1. Prevent exposure to non-VOCs in soil at concentrations that pose an unacceptable risk to ecological receptors
2. Prevent exposure to VOCs in soil vapor and groundwater at concentrations that pose an unacceptable risk to ecological receptors.

Future Land Use

1. Open Space Area

a. Prevent exposure to non-VOCs in soil at concentrations that pose an unacceptable risk to ecological receptors.
b. Reduce exposure to VOCs in soil vapor at concentrations that pose an unacceptable risk to ecological receptors

2. Recreational Area
    a. Prevent exposure to non-VOCs in soil at concentrations that pose an unacceptable risk to future recreational users, recreational workers, and construction worker
    b. Prevent exposure to VOCs in soil vapor and groundwater at concentrations that pose an unacceptable ambient air risk to future recreational users, recreational workers, and construction workers
    c. Prevent exposure to VOCs in soil vapor and groundwater at concentrations that pose an unacceptable indoor air risk to future recreational workers
    d. Prevent exposure to COCs in groundwater at concentrations that pose an unacceptable risk to future construction workers.
3. Mixed use Area (residential and commercial uses)
    a. Prevent exposure to COCs that pose an unacceptable risk to human health

**Christopher M. Fennessy, P.E.**
**Aerojet Rocketdyne, Inc.**
Engineering Manager, Site Remediation
11260 Pyrites Way, Suite 125
Rancho Cordova, CA 95670
Ph: 916-355-3341
Fax: 916-355-6145
Email: Christopher.Fennessy@Rocket.com